

overcome this objection.

The Office Action further rejected claims 1-2, 5, 6, and 9-11 under 35 U.S.C. §103 over Kashimura, et al., rejected claims 3 and 4 over Kashimura, et al. in view of Cowger, et al. as applied to claim 1 above, and further in view of Kurata, et al., and rejected claims 7 and 8 over the same Kashimura, et al. and Cowger, et al. as applied to claim 1 above, and further in view of Hildenbrand, et al.

Applicant respectfully traverses the rejection of claims 1, 2, 5, 6, and 9-11 under 35 U.S.C. §103 over Kashimura, et al. taken either alone or in combination with Cowger, et al. In an inkjet recording apparatus disclosed in this application, which an ink reservoir is detachably mounted with a recording head, and a carriage member carries the ink reservoir and recording head which are connected with but are detachable from each other. The ink reservoir can be replaced when the ink has been fully expelled while the same recording head can remain and continue to be used. As the recording head is much more expensive than the ink reservoir, this feature can achieve substantial cost savings by enabling continued use of the recording head while allowing the ink reservoir to be replaced.

Kashimura, et al. does not appear to disclose this feature. They discuss the positioning of a recording head on a carriage in a way which helps in accurate positioning of the ink discharge port and accurate positioning of the electrical contacts between the recording head and carriage (col. 4, lines 14-20). It appears that

the recording head described in Kashimura, et al. includes internally an integrated combination of an ink tank for housing ink and a recording head element having the function of discharging ink. In Kashimura, et al., the recording head which is formed by the ink tank and recording head element as a unitary device is disposable as one unit (col. 1, lines 17-24). The ink tank does appear to be separately detachable from the recording head element, and therefore, the recording head may not be continually used and the ink tank can not be individually replaced as in the recording head disclosed in this application. In addition, the ink tank and recording head discussed in Kashimura, et al. are not carried on a carriage in which the ink tank and recording head are detachable from each other.

In Fig. 17 of Kashimura, et al., it would appear that unless the ink reservoir 312 is broken, it is not possible to remove the ink reservoir 312 from the recording head unit 311. Applicant submits, therefore, that the construction of Kashimura, et al. provides a unitary, disposable ink jet recording head and does not provide motivation or render obvious at least the feature of replacing only a detachable ink reservoir and continuing to use the expensive recording head. Furthermore, Cowger, et al. also do not appear to disclose or render as obvious the feature discussed above.

Claim 1 recites, inter alia, "recording head unit carrying thereon first connection means as a part of said recording head unit, for connecting said recording head unit to said ink

reservoir unit; said ink reservoir unit carrying thereon second connection means corresponding to said first connection means as a part of said ink reservoir unit, for connecting said ink reservoir unit to said recording head unit; said first and second connection means being so formed that said first and second connection means establish, when said ink reservoir unit is mounted upon said recording head unit, a detachable engagement with each other in a manner, such that said ink in said reservoir unit flows to said passage in said recording head unit; wherein said recording head further includes a carriage member constructed so as to be mounted upon an image recording apparatus for carrying thereon said recording head unit and said reservoir unit together in the state that said recording head unit and said reservoir unit are connected with each other detachably, said carriage member having a positioning part for determining a position of said nozzle of said recording head unit with respect to said carriage member."

Kashimura, et al. taken either alone or in combination with Cowger, et al. do not appear to discuss or suggest at least the above-mentioned elements as set forth in claim 1. Accordingly, claim 1 defines patentable subject matter over the above patents. In addition, claims 2, 5, 6 and 9-11 which depend on claim 1 also define allowable subject matter.

Applicant respectfully traverses the rejection of claims 3 and 4 over Kashimura, et al. in view of Cowger, et al. as applied to claim 1 above, and further in view of Kurata, et al., and the rejection of claims 7 and 8 over the same Kashimura, et al. and

Cowger, et al., and further in view of Hildenbrand, et al. Applicant respectfully submits that dependant claims 3, 4, 7, and 8 are allowable over Kashimura, et al. and Cowger, et al. at least for the reasons independent claim 1 is allowable and that Kurata, et al. and Hildenbrand, et al. do not appear to disclose or render obvious the features discussed above.

A new process claim 12 has been added. Applicant submits that the rejections of claims 1-11 under 35 U.S.C. §103 are not applicable to new claim 12 at least because the cited references do not appear to disclose or suggest "mounting said ink reservoir upon said recording head unit such that the ink in said ink reservoir is supplied to said recording head unit; and breaking said seal member such that an interior space of said ink reservoir communicates with an exterior of said ink reservoir via said vent."


The Office is hereby authorized to charge any additional fees which may be required in connection with this amendment and to credit any overpayment to our Deposit Account No. 03-3125.

If a petition for time extension is required to make this response timely this paper should be considered to be such a petition, and the Commissioner is authorized to charge the requisite fees to our Deposit Account No. 03-3125.

If a telephone interview could advance the prosecution of this application, the Examiner is respectfully requested to call the undersigned attorney.

The entry of this amendment and the allowance of this application are respectfully requested.

Respectfully submitted,


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